

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ALLOCCA, Joseph, J.
Exxonmobil Research and
Engineering Company
P.O. Box 390
Florham Park, NJ 07932-0390
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 04 July 2000 (04.07.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference LAW 771	
International application No. PCT/US98/21595	International filing date (day/month/year) 13 October 1998 (13.10.98)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address EXXON RESEARCH AND ENGINEERING COMPANY 180 Park Avenue P.O. Box 390 Florham Park, NJ 07932-0390 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address EXXONMOBIL RESEARCH AND ENGINEERING COMPANY 180 Park Avenue P.O. Box 390 Florham Park, NJ 07932-0390 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:

Please note that the agent's address has also been modified accordingly.

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41 22) 740.14.35	Authorized officer Jocelyne Rey-Millet Telephone No.: (41-22) 338.83.38
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PATENT COOPERATION TREATY

From the INTERNATIONAL SEARCHING AUTHORITY

To: JOSEPH J. ALLOCCA
EXXON RESEARCH AND ENGINEERING
COMPANY
P.O. BOX 390
FLORHAM PARK, NJ 07932-0390

RECEIVED

FEB 01 1999

ERR&LAW DEPT

PCT

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

<p>Applicant's or agent's file reference LAW 771</p>	<p>Date of Mailing (day/month/year) 29 JAN 1999</p>
<p>International application No. PCT/US98/21595</p>	<p>International filing date (day/month/year) 13 OCTOBER 1998</p>
<p>Applicant EXXON RESEARCH AND ENGINEERING CO.</p>	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.
- Filing of amendments and statement under Article 19:**
The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):
- When?** The time limit for filing such amendments is normally 2 months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.
- Where?** Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35
- For more detailed instructions, see the notes on the accompanying sheet.
2. ☐ The applicant is hereby notified that no international search report will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.
3. ☐ With regard to the protest against payment of (an) additional fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the texts of both the protest and the decision thereon to the designated Offices.
- ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.
4. **Further action(s):** The applicant is reminded of the following:
- Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in rules 90 bis 1 and 90 bis 3, respectively, before the completion of the technical preparations for international publication.
- Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).
- Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

Cephia D. Toomer

Telephone No. (703) 308-0661

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference LAW 771	FOR FURTHER ACTION <i>see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.</i>	
International application No. PCT/US98/21595	International filing date (<i>day/month/year</i>) 13 OCTOBER 1998	(Earliest) Priority Date (<i>day/month/year</i>) NONE
Applicant EXXON RESEARCH AND ENGINEERING CO.		

This international search report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This international search report consists of a total of 2 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. ☐ Certain claims were found unsearchable (See Box I). —

2. ☐ Unity of invention is lacking (See Box II).

3. ☐ The international application contains disclosure of a nucleotide and/or amino acid sequence listing and the international search was carried out on the basis of the sequence listing

☐ filed with the international application.
☐ furnished by the applicant separately from the international application,

☐ but not accompanied by a statement to the effect that it did not include matter going beyond the disclosure in the international application as filed.

☐ transcribed by this Authority.

4. With regard to the title, ☒ the text is approved as submitted by the applicant.
☐ the text has been established by this Authority to read as follows:

5. With regard to the abstract,

☒ the text is approved as submitted by the applicant.
☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the drawings to be published with the abstract is:
 Figure No. 2

☒ as suggested by the applicant. ☐ None of the figures.
☐ because the applicant failed to suggest a figure.
☐ because this figure better characterizes the invention.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US98/21595

A. CLASSIFICATION OF SUBJECT MATTER

IPC(6) :C10M 129/91

US CL :508/526, 584, 585, 587

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

U.S. : 508/526, 584, 585, 587

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

World Patent Index

United States Automated Patent System

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 5,744,430 A (INOUE ET AL) 28 April 1998 (28-04-98), see abstract; column 1, line 60 bridging column 2, lines 1-20.	1-10
X	US 3,396,114 A (VIENNA ET AL) 06 August 1968 (06-08-68), see column 1, lines 14-34; column lines 15-25.	1-5
Y	US 5,108,634 A (SEIKI) 28 April 1992 (28-04-92), see abstract; column 1, line 62 bridging column 2, lines 1-14.	1-10
Y	US 4,812,246 A (YABE) 14 March 1989 (14-03-89), see abstract; column 2, lines 15-21, column 3, lines 29-58; column 4, lines 6-20.	1-10

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:	*T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
A document defining the general state of the art which is not considered to be of particular relevance	*X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
E earlier document published on or after the international filing date	*Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art
L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)	*A* document member of the same patent family
O document referring to an oral disclosure, use, exhibition or other means	
P document published prior to the international filing date but later than the priority date claimed	

Date of the actual completion of the international search

23 DECEMBER 1998

Date of mailing of the international search report

29 JAN 1999

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

Cephia D. Toomer

Telephone No. (703) 308-0661

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

3-12-99

To:

JOSEPH J. ALLOCCA
EXXON RESEARCH AND ENGINEERING COMPANY
P.O. BOX 390
FLORHAM PARK NJ 07932-0390

INVITATION TO CORRECT DEFECTS IN THE INTERNATIONAL APPLICATION

(PCT Articles 3(4)(i) and 17(1) and Rule 26)

Reply due Dec. 13, 1999

Date of mailing
(day/month/year)

13 NOV 1998

Applicant's or agent's file reference
LAW 771

REPLY DUE within **ONE MONTH** from
the above date of mailing

International application No.

PCT/US98/21595

International filing date
(day/month/year)

13 OCT 98

Applicant

EXXON RESEARCH AND ENGINEERING COMPANY

The applicant is hereby invited, within the time limit indicated above, to correct the defects in the international application, which are specified on the attached

☒ Annex A

☒ Annex B

☒ Annex C

Additional observations (if necessary):

HOW TO CORRECT THE DEFECTS?

Correction must be submitted by filing a replacement sheet embodying the correction and a letter accompanying the replacement sheet, which shall draw attention to the difference between the replaced sheet and the replacement sheet. A correction may be stated in a letter only if it is of such a nature that it can be transferred from the letter to the record copy without adversely affecting the clarity and direct reproducibility of the sheet onto which the correction is to be transferred (Rule 26.4(a)).

ATTENTION

Failure to correct the defects will result in the international application being considered withdrawn by this receiving Office (see Rule 26.5 for further details).

A copy of this invitation and any attachments has been sent to the International Bureau

☒ and the International Searching Authority.

Name and mailing address of the receiving Office
Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231
Facsimile No.

Attn: RO/US

Authorized officer:

George J. H. [Signature]
PCT International Division

Telephone No.

ANNEX A TO FORM PCT/RO/106

International application No.

PCT/US98/21595

The receiving Office has found the following defects in the international application:

1. As to signature* of the international application (Rules 4.15 and 90.4), the request:

- a. ☐ is not signed.
- b. ☒ is not signed by all the applicants.
- c. ☐ is not accompanied by the statement referred to in the check list in Box No. VIII of the request explaining the lack of the signature of an applicant for the designation of the United States of America.
- d. ☐ is signed by what appears to be an agent/common representative but
- ☐ the international application is not accompanied by a power of attorney appointing him.
- ☐ the power of attorney accompanying the international application was not signed by all the applicants.
- e. ☐ other (specify):

* All applicants must sign, including inventors if they are also applicants (e.g. where the United States of America is designated).

2. As to indications concerning the applicant, the request (Rules 4.4 and 4.5):

- a. ☐ does not properly indicate the applicant's name (specify):
- b. ☐ does not indicate the applicant's address.
- c. ☐ does not properly indicate the applicant's address (specify):
- d. ☒ does not indicate the applicant's nationality.
- e. ☒ does not indicate the applicant's residence.
- f. ☐ other (specify):

Blahay Alan G.
and
Cartwright, Stanley J.

3. As to the language of some parts of the international application (Rule 12.1):

- a. ☐ the request is not in (one of) the admitted language(s) which is (are): _____
- b. ☐ the text matter of the drawings is not in (one of) the admitted language(s) which is (are): _____
- c. ☐ the abstract is not in (one of) the admitted language(s) which is (are): _____

4. The title of the invention:

- a. ☐ is not indicated in Box No. 1 of the request (Rule 4.1(a)).
- b. ☐ is not indicated at the top of the first sheet of the description (Rule 5.1(a)).
- c. ☐ as appearing in Box No. 1 of the request is not identical with the title heading the description (Rule 5.1(a)).

5. As to the abstract (Rule 8):

- ☐ the international application does not contain an abstract.

The physical requirements of the international application are not complied with to the extent which is necessary for the purpose of a reasonably uniform international publication, as specified below (Rule 11). The receiving Office has found the following defects in the presentation of the text matter of the international application:

	Request	Description	Claims	Abstract
a. <input type="checkbox"/> The sheets do not admit of direct reproduction.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b. <input type="checkbox"/> The element does not commence on a new sheet.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c. <input type="checkbox"/> Sheets are not free from creases, cracks, folds.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d. <input checked="" type="checkbox"/> Sheets are not used in the upright position. <i>Page 16 + 17</i>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e. <input type="checkbox"/> One side of the sheets is not left unused.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f. <input type="checkbox"/> The paper of the sheets is not flexible/strong/white/smooth/non-shiny/durable.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g. <input type="checkbox"/> The sheets are not connected as prescribed (Rule 11.4(b)).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
h. <input type="checkbox"/> Sheets are not A4 size (29.7cm x 21cm).	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
i. <input type="checkbox"/> The minimum margins on the sheets are not as prescribed (top: 2cm; left side: 2.5cm; right side: 2cm; bottom: 2cm).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
j. <input type="checkbox"/> The file reference number indicated on the sheets does not appear in the left-hand corner of the sheets, within 1.5 cm of the top of the sheets.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
k. <input type="checkbox"/> The file reference number exceeds the maximum of 12 characters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
l. <input type="checkbox"/> The sheets of the description, claims and abstract are not numbered in consecutive Arabic numerals.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
m. <input type="checkbox"/> The sheet numbers are not centered at the top or bottom of the sheets.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
n. <input type="checkbox"/> The sheet numbers are in the margin (see i. above for the size of the margins).		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
o. <input type="checkbox"/> The text matter is not typed or printed.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
p. <input type="checkbox"/> The typing on the sheets is not 1½-spaced.		<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
q. <input type="checkbox"/> The characters in the text matter on the sheets are less than 0.21 cm high in capital letters.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
r. <input type="checkbox"/> The text matter on the sheets is not in dark, indelible color.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
s. <input type="checkbox"/> The element contains drawings.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
t. <input type="checkbox"/> The sheets contain alterations/overwritings/interlineations/too many erasures.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
u. <input type="checkbox"/> The sheets are askew	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
v. <input type="checkbox"/> The sheets contain photocopy marks.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Further observations (if necessary):

Number Page 16 and 17

New Pages are Required

The receiving Office has found that, with regard to the presentation of the drawings of the international application as filed, the physical requirements are not complied with to the extent that compliance therewith is necessary for:

1. ☐ reasonably uniform international publication (Rules 11 and 26.3(a)(i)) (*defects to be specified*):

Sheets containing drawings:

- a. ☐ the sheets do not admit of direct reproduction.
- b. ☐ the sheets are not free from creases, cracks, folds.
- c. ☐ one side of the sheets is not left unused.
- d. ☐ the paper of the sheets is not flexible/strong/white/smooth/non-shiny/durable.
- e. ☐ the drawings do not commence on a new sheet.
- f. ☐ the sheets are not connected as prescribed (Rule 11.4(b)).
- g. ☐ the sheets are not A4 size (29.7cm x 21cm).
- h. ☐ the minimum margins on the sheets are not as prescribed (top: 2.5cm; left side: 2.5cm; right side: 1.5cm; bottom: 1cm).
- i. ☐ the file reference number indicated on the sheets does not appear in the left-hand corner of the sheets, within 1.5cm of the top of the sheets.
- j. ☐ the file reference number exceeds the maximum of 12 characters.
- k. ☐ the sheets are not free from frames around usable or used surfaces.
- l. ☒ the sheets are not numbered in consecutive Arabic numerals (e.g. 1/3, 2/3, 3/3). **ALL**
- m. ☐ the sheet numbers are not centered at the top or bottom of the sheets.
- n. ☐ the sheet numbers are in the margin (see h. above for the size of the margins).
- o. ☐ the sheets contain alterations/overwritings/interlineations/too many erasures.
- p. ☐ the sheets contain photocopy marks.

Drawings (Rule 11.13):

- a. ☐ do not admit of direct reproduction.
- b. ☐ contain unnecessary text matter.
- c. ☐ contain words so placed as to prevent translation without interference with lines thereof.
- d. ☐ are not executed in durable black color; the lines are not uniformly thick and well-defined.
- e. ☐ contain cross-sections not properly hatched.
- f. ☐ would not be properly distinguishable in reduced reproduction.
- g. ☐ contain scales not represented graphically.
- h. ☒ contain numbers, letters and reference lines lacking simplicity and clarity. **FIG. 1A**
- i. ☐ contain lines drafted without the aid of drafting instruments.
- j. ☐ contain disproportionate elements of a figure not necessary for clarity.
- k. ☐ contain numbers and letters of height less than 0.32 cm.
- l. ☐ contain letters not conforming to the Latin, and where customary, Greek alphabets.
- m. ☐ contain figures on two or more sheets which form a single complete figure but which are not able to be assembled without concealing parts thereof.
- n. ☐ contain figures which are not properly arranged and clearly separated.
- o. ☐ contain different figures not numbered in consecutive Arabic numerals.
- p. ☐ contain different figures not numbered independent of the numbering of the sheets.
- q. ☐ are not restricted to reference signs mentioned in the description.
- r. ☐ do not contain reference signs that are mentioned in the description.
- s. ☐ contain the same feature denoted by different reference signs.
- t. ☐ are not arranged in an upright position, clearly separated from one another.
- u. ☐ are not presented sideways with the top of the figures at the left side of the sheets.

2. ☐ satisfactory reproduction (Rules 11 and 26.3(b)(i)).

Further observations (if necessary):

- Remove borderline. FIG. 1A - 2

NEW DRWG'S REQ'D

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:

JOSEPH J. ALLOCCA
EXXON RESEARCH AND ENGINEERING COMPANY
P.O. BOX 390
FLORHAM PARK NJ 07932-0390

NOTIFICATION REGARDING CERTAIN
CORRECTIONS MADE *EX OFFICIO*

(PCT Administrative Instructions, Section 327)

Date of mailing
(day/month/year)

13 NOV 1998

Applicant's or agent's file reference
LAW 771

REPLY DUE

NONE
However, see paragraph 3 below

International application No.
PCT/US98/21595

International filing date
(day/month/year)

13 OCT 98

Applicant

EXXON RESEARCH AND ENGINEERING COMPANY

1. The applicant is hereby notified that this receiving Office has corrected formal defects in the international application *ex officio*, as shown on the attached copy of:



the request, sheet No.:

1 and 2



the description, sheet No.:



the claims, sheet No.:



the drawings, sheet No.:



other (specify):

2. If the applicant agrees with these corrections, no further action is required in this regard.

3. In case of disagreement with these corrections, the applicant should promptly inform this receiving Office accordingly.

Name and mailing address of the receiving Office

Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231

Attn: RO/US

Facsimile No.

Authorized officer

[Signature]
Patent Office
Washington, D.C.

Telephone No.

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

WRITTEN OPINION

(PCT Rule 66)

To: JOSEPH J. ALLOCCA
EXXONMOBILE RESEARCH AND ENGINEERING
COMPANY
P.O. BOX 390
FLORHAM PARK, NJ 07932-0390

Date of Mailing
(day/month/year)

27 SEP 2000

Applicant's or agent's file reference

LAW 771

REPLY DUE

within **TWO** months
from the above date of mailing

International application No.

PCT/US98/21595

International filing date (day/month/year)

13 OCTOBER 1998

Priority date (day/month/year)

NONE

International Patent Classification (IPC) or both national classification and IPC
IPC(7): C10M 129/91

and US Cl.: 508/526, 584, 585, 587

Applicant

EXXONMOBILE RESEARCH AND ENGINEERING CO.

*No reply!
respond when
US offer action received!*

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

NOV 15 2000

PCT

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 13 FEBRUARY 2001

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

Cephia D. Tuoinen

Telephone No. (703) 308-0661

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

WRITTEN OPINION

(PCT Rule 66)

To: JOSEPH J. ALLOCCA
EXXONMOBILE RESEARCH AND ENGINEERING
COMPANY
P.O. BOX 390
FLORHAM PARK, NJ 07932-0390

Date of Mailing
(day/month/year)

27 SEP 2000

Applicant's or agent's file reference

LAW 771

REPLY DUE

within TWO months
from the above date of mailing

International application No.

PCT/US98/21595

International filing date (day/month/year)

13 OCTOBER 1998

Priority date (day/month/year)

NONE

International Patent Classification (IPC) or both national classification and IPC

IPC(7): C10M 129/91

and US Cl.: 508/526, 584, 585, 587

Applicant

EXXONMOBILE RESEARCH AND ENGINEERING CO.

1. This written opinion is the first (first, etc.) drawn by this International Preliminary Examining Authority.

2. This opinion contains indications relating to the following items:

- I ☒ Basis of the opinion
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. ~~The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).~~

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4 bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.

4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: 13 FEBRUARY 2001

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

Cephia D. Toomer

Telephone No. (703) 308-0661

I. Basis of the opinion

1. With regard to the elements of the international application:*

☒ the international application as originally filed☒ the description:

pages 1-19, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the claims:

pages 20-21, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the drawings:

pages 1-4, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

☒ the sequence listing part of the description:

pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).☐ the language of publication of the international application (under Rule 48.3(b)).☐ the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

☐ contained in the international application in printed form.☐ filed together with the international application in computer readable form.☐ furnished subsequently to this Authority in written form.☐ furnished subsequently to this Authority in computer readable form.☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.4. ☒ The amendments have resulted in the cancellation of:☒ the description, pages NONE☒ the claims, Nos. NONE☒ the drawings, sheets/fig NONE5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as "originally filed".

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims	<u>NONE</u>	YES
	Claims	<u>1-10</u>	NO
Inventive Step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-10</u>	NO
Industrial Applicability (IA)	Claims	<u>1-10</u>	YES
	Claims	<u>NONE</u>	NO

2. citations and explanations

Claims 1-10 lack novelty under PCT Article 33(2) as being anticipated by Inoue (US 5,744,430).

Inoue teaches an engine oil composition which has a lower viscosity and a long lifetime (see col. 1, lines 25-41). The composition comprises a base oil having a kinematic viscosity of from 2 to 8 mm²/s at 100 °C and is selected from mineral oil, synthetic oil and mixtures thereof (see col. 1, lines 60-63; col. 2, lines 55-56); a phenol ashless antioxidant in an amount from 0.1 - 3% by weight (see col. 2, lines 9-10; col. 5, lines 21-65); and a viscosity index improver in an amount from about 1 to about 10% by weight (see col. 2, lines 15-17; col. 7, lines 3-26). Accordingly, Inoue teaches all the material limitations of the claims, anticipates the claims.

Claims 1-10 lack an inventive step under PCT Article 33(3) as being obvious over Vienna (US 3,396,114).

Vienna teaches a lubricant comprising 0.5 - 2 volume percent of a polyalkyl methacrylate viscosity index improver, 0.5 - 2 volume percent of a hindered phenol and petroleum lubricating oil having a viscosity of 47 SSU at 210 °F to 12,000 SSU at 0 °F (see abstract; col. 1, lines 11-31; col. 3, lines 20-69).

Vienna teaches the limitations of the claims other than that the oil composition functions as a gas engine oil. However, no unobviousness is seen in this difference since Vienna teaches the same components used in the same proportions as Applicant. Therefore, it would be reasonable to expect that the lubricant composition of Vienna would function as a gas engine oil. Vienna also fails to teach that the additive composition enhances the life of the oil. However, since Vienna incorporates the same additives in the oil as those of the present invention, it would be reasonable to expect that the additive composition enhances the life of the oil.

----- NEW CITATIONS -----
NONE

WRITTEN OPINION

International application No.

PCT/US98/21595

Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

TIME LIMIT:

The time limit set for response to a Written Opinion may not be extended. 37 CFR 1.484(d). Any response received after the expiration of the time limit set in the Written Opinion will not be considered in preparing the International Preliminary Examination Report.

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference

LAW 771

Box No. I TITLE OF INVENTION

LONG LIFE GAS ENGINE OIL AND ADDITIVE SYSTEM

Box No. II APPLICANT

Name and address:

EXXON RESEARCH AND ENGINEERING COMPANY

P.O. Box 390

180 Park Avenue

Florham Park, New Jersey 07932-0390

United States of America

☐ This person is also inventor.

Telephone No.:

973-765-1446

Facsimile No.:

973-765-2529

Teleprinter No.:

State (i.e., country) of nationality:

US

State (i.e., country) of residence:

US

This person is applicant for the purposes of:



all designated States



all designated States except the United States of America



the United States of America only



the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTORS

Name and address:

BLAHEY, Alan G.

1716 Trinity Cres.

Sarnia, Ontario, Canada N7S 5K2

This person is:

☐ applicant only

☐ applicant and inventor

☒ inventor only (if this check-box is marked, do not fill in below.)

State (i.e., country) of nationality:

State (i.e., country) of residence:

This person is applicant for the purposes of:



all designated States



all designated States except the United States of America



the United States of America only



the States indicated in the Supplemental Box

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:



agent



common representative

Name and address:

ALLOCCA, Joseph J. OTT, Roy J.

Exxon Research and Engineering Company

P.O. Box 390

Florham Park, New Jersey 07932-0390

United States of America

Telephone No.:

973-765-1446

Facsimile No.:

973-765-2529

Teleprinter No.:



Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.



Further applicants and/or (further) inventors are indicated on a continuation sheet.

Continuation of Box No. III FURTHER APPLICANTS AND/OR (FURTHER) INVENTORS	
Name and address: CARTWRIGHT, Stanley J. 2031 Huron Shores Court Samia, Ontario, Canada N7T 7H4	This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input checked="" type="checkbox"/> inventor only (if this check-box is marked, do not fill in below.)
State (i.e., country) of nationality:	State (i.e., country) of residence:
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Name and address:	This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (if this check-box is marked, do not fill in below.)
State (i.e., country) of nationality:	State (i.e., country) of residence:
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Name and address:	This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (if this check-box is marked, do not fill in below.)
State (i.e., country) of nationality:	State (i.e., country) of residence:
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
Name and address:	This person is: <input type="checkbox"/> applicant only <input type="checkbox"/> applicant and inventor <input type="checkbox"/> inventor only (if this check-box is marked, do not fill in below.)
State (i.e., country) of nationality:	State (i.e., country) of residence:
This person is applicant for the purposes of: <input type="checkbox"/> all designated States <input type="checkbox"/> all designated States except the United States of America <input type="checkbox"/> the United States of America only <input type="checkbox"/> the States indicated in the Supplemental Box	
<input type="checkbox"/> Further applicants and/or (further) inventors are indicated on a continuation sheet.	

Box No. V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a):

Regional Patent

- ☐ **AP ARIPO Patent:** KE Kenya, MW Malawi, SD Sudan, SZ Swaziland and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☐ **EP European Patent:** AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, DE Germany, DK Denmark, ES Spain, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☐ **OA OAPI Patent:** BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT


National Patent

- | | |
|---|---|
| <input type="checkbox"/> AM Armenia | <input type="checkbox"/> MD Republic of Moldova |
| <input type="checkbox"/> AT Austria | <input type="checkbox"/> MG Madagascar |
| <input type="checkbox"/> AU Australia | <input type="checkbox"/> MN Mongolia |
| <input type="checkbox"/> BB Barbados | <input type="checkbox"/> MW Malawi |
| <input type="checkbox"/> BG Bulgaria | <input type="checkbox"/> MX Mexico |
| <input type="checkbox"/> BR Brazil | <input type="checkbox"/> NL Netherlands |
| <input type="checkbox"/> BY Belarus | <input type="checkbox"/> NO Norway |
| <input checked="" type="checkbox"/> CA Canada | <input type="checkbox"/> NZ New Zealand |
| <input type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input type="checkbox"/> PL Poland |
| <input type="checkbox"/> CN China | <input type="checkbox"/> PT Portugal |
| <input type="checkbox"/> CZ Czech Republic | <input type="checkbox"/> RO Romania |
| <input type="checkbox"/> DE Germany | <input type="checkbox"/> RU Russian Federation |
| <input type="checkbox"/> DK Denmark | <input type="checkbox"/> SD Sudan |
| <input type="checkbox"/> EE Estonia | <input type="checkbox"/> SE Sweden |
| <input type="checkbox"/> ES Spain | <input type="checkbox"/> SI Slovenia |
| <input type="checkbox"/> FI Finland | <input type="checkbox"/> SK Slovakia |
| <input type="checkbox"/> GB United Kingdom | <input type="checkbox"/> TJ Tajikistan |
| <input type="checkbox"/> GE Georgia | <input type="checkbox"/> TT Trinidad and Tobago |
| <input type="checkbox"/> HU Hungary | <input type="checkbox"/> UA Ukraine |
| <input type="checkbox"/> JP Japan | <input checked="" type="checkbox"/> US United States of America |
| <input type="checkbox"/> KE Kenya | |
| <input type="checkbox"/> KG Kyrgyzstan | <input type="checkbox"/> UZ Uzbekistan |
| <input type="checkbox"/> KP Democratic People's Republic of Korea | <input type="checkbox"/> VN Viet Nam |
| <input type="checkbox"/> KR Republic of Korea | |
| <input type="checkbox"/> KZ Kazakhstan | |
| <input type="checkbox"/> LK Sri Lanka | |
| <input type="checkbox"/> LR Liberia | |
| <input type="checkbox"/> LT Lithuania | |
| <input type="checkbox"/> LU Luxembourg | |
| <input type="checkbox"/> LV Latvia | |

Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet:

In addition to the designations made above, the applicant also makes under Rule 4.9(b) all designations which would be permitted under the PCT except the designation(s) of

The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit.

Box No. VI PRIORITY CLAIM				Further priority claims are indicated in the Supplemental Box <input type="checkbox"/>	
The priority of the following earlier application(s) is hereby claimed:					
Country	Filing Date (day/month/year)	Application No.	Office of filing		
item (1)					
item (2)					
<input type="checkbox"/> The receiving Office is hereby requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) identified above as item(s): _____					
Box No. VII INTERNATIONAL SEARCHING AUTHORITY					
Choice of International Searching Authority (ISA) (If two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used): ISA / <u>US</u>					
Earlier search Fill in where a search (international, international-type or other) by the International Searching Authority has already been carried out or requested and the Authority is now requested to base the international search, to the extent possible, on the results of that earlier search. Identify such search or request either by reference to the relevant application (or the translation thereof) or by reference to the search request.					
Country (or regional Office):		Date (day/month/year):		Number:	
Box No. VIII CHECK LIST					
This international application contains the following number of sheets: 1. request 4 sheets 2. description 19 sheets 3. claims 2 sheets 4. abstract 1 sheets 5. drawings 4 sheets Total 30 sheets			This international application is accompanied by the item(s) marked below: 1. <input type="checkbox"/> separate signed power of attorney 2. <input type="checkbox"/> copy of general power of attorney 3. <input type="checkbox"/> statement explaining lack of signature 4. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): 5. <input checked="" type="checkbox"/> fee calculation sheet 6. <input type="checkbox"/> separate indications concerning deposited microorganisms 7. <input type="checkbox"/> nucleotide and/or amino acid sequence listing (diskette) 8. <input checked="" type="checkbox"/> other (specify): POSTCARD		
Figure No. <u>2</u> of the drawings (if any) should accompany the abstract when it is published.					
Box No. IX SIGNATURE OF APPLICANT OR AGENT					
EXXON RESEARCH AND ENGINEERING COMPANY  Jessica R. Nacheman - Assistant Secretary					
For receiving Office use only				2. Drawings: <input type="checkbox"/> received: <input type="checkbox"/> not received:	
1. Date of actual receipt of the purported international application:					
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:					
4. Date of timely receipt of the required corrections under PCT Article 11(2):					
5. International Searching Authority specified by the applicant: ISA /			6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid		
For International Bureau use only					
Date of receipt of the record copy by the International Bureau:					
Form PCT/RO/101 (last sheet) (January 1995)					

PCT

FEE CALCULATION SHEET

Annex to the Request

Applicant's or agent's
file reference **LAW 771**

For receiving Office use only

International application No.

Date stamp of the receiving Office

Applicant

EXXON RESEARCH AND ENGINEERING COMPANY

CALCULATION OF PRESCRIBED FEES

1. TRANSMITTAL FEE 240.00 **T**

2. SEARCH FEE 700.00 **S**

International search to be carried out by USPTO

3. INTERNATIONAL FEE

Basic Fee

The international application contains 30 sheets.

first 30 sheets 455.00 **b₁**

..... x = **b₂**

remaining sheets additional amount

Add amounts entered at **b₁** and **b₂**

and enter total at **B** 455.00 **B**

Designation Fee - CA,US

2 x 105.00 = 210.00 **D**

number of designations amount of designation fee

Add amounts entered at **B** and **D** and enter total at **I** 665.00 **I**

4. FEE FOR PRIORITY DOCUMENT **P**

5. TOTAL FEES PAYABLE

Add the amounts entered at **T**, **S**, **I** and **P**,
and enter total in the TOTAL box

\$1605.00

TOTAL

☐ The designation fee is not paid at this time.

MODE OF PAYMENT

☒ authorization to charge
deposit account (see below)

☐ bank draft

☐ coupons

☐ cheque

☐ cash

☐ other (specify):

☐ postal money order

☐ revenue stamps

DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO / US

☒ is hereby authorized to charge the total fees indicated above to my deposit account.

☒ is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☒ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

05-1330

Deposit Account Number

13/10/98

Date (day/month/year)

Joseph J. Allocca
Signature - Joseph J. Allocca - Reg.# 27,766

PATENT COOPERATION TREATY

From the RECEIVING OFFICE

PCT

To:

JOSEPH J. ALLOCCA
EXXON RESEARCH AND ENGINEERING COMPANY
P.O. BOX 390
FLORHAM PARK NJ 07932-0390

NOTIFICATION OF THE INTERNATIONAL
APPLICATION NUMBER AND OF THE
INTERNATIONAL FILING DATE

(PCT Rule 20.5(c))

Date of mailing
(day/month/year)

13 NOV 1998

Applicant's or agent's file reference
LAW 771

IMPORTANT NOTIFICATION

International application No.

PCT/US98/21595

International filing date (day/month/year)

13 OCT 98

Priority date (day/month/year)

Applicant EXXON RESEARCH AND ENGINEERING COMPANY

Title of the invention LONG LIFE GAS ENGINE OIL AND ADDITIVE SYSTEM

1. The applicant is hereby notified that the international application has been accorded the international application number and the international filing date indicated above.

2. The applicant is further notified that the record copy of the international application:



was transmitted to the International Bureau on

13 NOV 1998



has not yet been transmitted to the International Bureau for the reason indicated below and a copy of this notification has been sent to the International Bureau*:



because the necessary national security clearance has not yet been obtained.



because (reason to be specified):

* The International Bureau monitors the transmittal of the record copy by the receiving Office and will notify the applicant (with Form PCT/IB/301) of its receipt. Should the record copy not have been received by the expiration of 14 months from the priority date, the International Bureau will notify the applicant (Rule 22.1(c)).

3. FOREIGN TRANSMITTAL LICENSE INFORMATION

Completed by: DAH



Additional license for foreign transmittal not required. This subject matter is covered by a license already granted on the equivalent U.S. national application. Refer to that license for information concerning its scope.



License for foreign transmittal not required. 37 CFR 5.11(e)(1) or 37 CFR 5.11(e)(2). However, a license may be required for additional subject matter. See 37 CFR 5.15(b).



Foreign transmittal license granted. 35 U.S.C. 184; 37 CFR 5.11 on

10/29/98
(date)



37 CFR 5.15(a)



37 CFR 5.15(b)

Name and mailing address of the receiving Office

Assistant Commissioner for Patents
Box PCT
Washington, D.C. 20231

Facsimile No.

Attn: RO/US

Authorized officer

George H. H.
PCT International Division

Telephone No.

703-305-3740

PATENT COOPERATION TREATY

PCT

NOTICE INFORMING THE APPLICANT OF THE COMMUNICATION OF THE INTERNATIONAL APPLICATION TO THE DESIGNATED OFFICES

(PCT Rule 47.1(c), first sentence)

From the INTERNATIONAL BUREAU

To:

ALLOCCA, Joseph, J.
Exxon Research and Engineering
Company
P.O. Box 390
Florham Park, NJ 07932-0390
ETATS-UNIS D'AMERIQUE

RECEIVED

MAY 02 2000

Date of mailing (day/month/year) 20 April 2000 (20.04.00)		
Applicant's or agent's file reference LAW 771		FREE LAW DEPT IMPORTANT NOTICE
International application No. PCT/US98/21595	International filing date (day/month/year) 13 October 1998 (13.10.98)	Priority date (day/month/year)
Applicant EXXON RESEARCH AND ENGINEERING COMPANY et al		

1. Notice is hereby given that the International Bureau has communicated, as provided in Article 20, the international application to the following designated Offices on the date indicated above as the date of mailing of this Notice:
- US

In accordance with Rule 47.1(c), third sentence, those Offices will accept the present Notice as conclusive evidence that the communication of the international application has duly taken place on the date of mailing indicated above and no copy of the international application is required to be furnished by the applicant to the designated Office(s).

2. The following designated Offices have waived the requirement for such a communication at this time:
- CA

The communication will be made to those Offices only upon their request. Furthermore, those Offices do not require the applicant to furnish a copy of the international application (Rule 49.1(a-bis)).

3. Enclosed with this Notice is a copy of the international application as published by the International Bureau on 20 April 2000 (20.04.00) under No. WO 00/22070

REMINDER REGARDING CHAPTER II (Article 31(2)(a) and Rule 54.2)

If the applicant wishes to postpone entry into the national phase until 30 months (or later in some Offices) from the priority date, a demand for international preliminary examination must be filed with the competent International Preliminary Examining Authority before the expiration of 19 months from the priority date.

It is the applicant's sole responsibility to monitor the 19-month time limit.

Note that only an applicant who is a national or resident of a PCT Contracting State which is bound by Chapter II has the right to file a demand for international preliminary examination.

REMINDER REGARDING ENTRY INTO THE NATIONAL PHASE (Article 22 or 39(1))

If the applicant wishes to proceed with the international application in the national phase, he must, within 20 months or 30 months, or later in some Offices, perform the acts referred to therein before each designated or elected Office.

For further important information on the time limits and acts to be performed for entering the national phase, see the Annex to Form PCT/IB/301 (Notification of Receipt of Record Copy) and Volume II of the PCT Applicant's Guide.

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer J. Zahra
Facsimile No. (41-22) 740.14.35	Telephone No. (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF THE RECORDING
OF A CHANGE(PCT Rule 92bis.1 and
Administrative Instructions, Section 422)

From the INTERNATIONAL BUREAU

To:

ALLOCCA, Joseph, J.
Exxonmobil Research and
Engineering Company
P.O. Box 390
Florham Park, NJ 07932-0390
ETATS-UNIS D'AMERIQUE

Date of mailing (day/month/year) 04 July 2000 (04.07.00)	IMPORTANT NOTIFICATION
Applicant's or agent's file reference LAW 771	
International application No. PCT/US98/21595	International filing date (day/month/year) 13 October 1998 (13.10.98)

1. The following indications appeared on record concerning:

☒ the applicant ☐ the inventor ☐ the agent ☐ the common representative

Name and Address EXXON RESEARCH AND ENGINEERING COMPANY 180 Park Avenue P.O. Box 390 Florham Park, NJ 07932-0390 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

2. The International Bureau hereby notifies the applicant that the following change has been recorded concerning:

☐ the person ☒ the name ☐ the address ☐ the nationality ☐ the residence

Name and Address EXXONMOBIL RESEARCH AND ENGINEERING COMPANY 180 Park Avenue P.O. Box 390 Florham Park, NJ 07932-0390 United States of America	State of Nationality US	State of Residence US
	Telephone No.	
	Facsimile No.	
	Teleprinter No.	

3. Further observations, if necessary:
Please note that the agent's address has also been modified accordingly.

4. A copy of this notification has been sent to:

☒ the receiving Office ☐ the designated Offices concerned
☐ the International Searching Authority ☒ the elected Offices concerned
☒ the International Preliminary Examining Authority ☐ other:

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer Jocelyne Rey-Millet
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents
 United States Patent and Trademark
 Office
 Box PCT
 Washington, D.C. 20231
 ETATS-UNIS D'AMERIQUE

in its capacity as elected Office

Date of mailing (day/month/year) 04 July 2000 (04.07.00)	
International application No. PCT/US98/21595	Applicant's or agent's file reference LAW 771
International filing date (day/month/year) 13 October 1998 (13.10.98)	Priority date (day/month/year)
Applicant BLAHEY, Alan, G. et al	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:

28 April 2000 (28.04.00)

☐ in a notice effecting later election filed with the International Bureau on:
2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland Facsimile No.: (41-22) 740.14.35	Authorized officer Jocelyne Rey-Millet Telephone No.: (41-22) 338.83.38
---	---

PATENT COOPERATION TREATY

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To: JOSEPH J. ALLOCCA
EXXONMOBILE RESEARCH AND ENGINEERING
COMPANY
P.O. BOX 390
FLORHAM PARK, NJ 07932-0390

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

Date of Mailing
(day/month/year)

14 FEB 2001

Applicant's or agent's file reference
LAW 771

IMPORTANT NOTIFICATION

International application No.
PCT/US98/21595

International filing date (day/month/year)
13 OCTOBER 1998

Priority Date (day/month/year)
NONE

Applicant
EXXONMOBILE RESEARCH AND ENGINEERING CO.

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.
4. **REMINDER**

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices)(Article 39(1))(see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/US
Commissioner of Patents and Trademarks
Box PCT
Washington, D.C. 20231

Facsimile No. (703) 305-3230

Authorized officer

CEPHIA TOOMER

Telephone No. (703) 308-0661

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)


Applicant's or agent's file reference LAW 771	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US98/21595	International filing date (day/month/year) 13 OCTOBER 1998	Priority date (day/month/year) NONE
International Patent Classification (IPC) or national classification and IPC IPC(7): C10M 129/91 and US Cl.: 508/526, 584, 585, 587		
Applicant EXXONMOBILE RESEARCH AND ENGINEERING CO.		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 4 sheets.
- ☐ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority. (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 0 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of report with regard to novelty, inventive step or industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 28 APRIL 2000	Date of completion of this report 23 JANUARY 2001
Name and mailing address of the IPEA/US Commissioner of Patents and Trademarks Box PCT Washington, D.C. 20231	Authorized officer  CEPHA TOOMER
Facsimile No. (703) 305-3230	Telephone No. (703) 308-0661

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/21595

I. Basis of the report

1. With regard to the elements of the international application:*



the international application as originally filed



the description:

pages 1-19, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of



the claims:

pages 20-21, as originally filed
pages NONE, as amended (together with any statement) under Article 19
pages NONE, filed with the demand
pages NONE, filed with the letter of



the drawings:

pages 1-4, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of



the sequence listing part of the description:

pages NONE, as originally filed
pages NONE, filed with the demand
pages NONE, filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:



the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).



the language of publication of the international application (under Rule 48.3(b)).



the language of the translation furnished for the purposes of international preliminary examination (under Rules 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:



contained in the international application in printed form.



filed together with the international application in computer readable form.



furnished subsequently to this Authority in written form.



furnished subsequently to this Authority in computer readable form.



The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.



The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☒ The amendments have resulted in the cancellation of:

the description, pages NONE



the claims, Nos. NONE



the drawings, sheets/fig. NONE

5. ☐ This report has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

**Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/US98/21595

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**1. statement**

Novelty (N)	Claims	<u>NONE</u>	YES
	Claims	<u>1-10</u>	NO
Inventive Step (IS)	Claims	<u>NONE</u>	YES
	Claims	<u>1-10</u>	NO
Industrial Applicability (IA)	Claims	<u>1-10</u>	YES
	Claims	<u>NONE</u>	NO

2. citations and explanations (Rule 70.7)

Claims 1-10 lack novelty under PCT Article 33(2) as being anticipated by Inoue (US 5,744,430).

Inoue teaches an engine oil composition which has a lower viscosity and a long lifetime (see col. 1, lines 25-41). The composition comprises a base oil having a kinematic viscosity of from 2 to 8 mm²/s at 100 C and is selected from mineral oil, synthetic oil and mixtures thereof (see col. 1, lines 60-63; col. 2, lines 55-56); a phenol ashless antioxidant in an amount from 0.1 - 3% by weight (see col. 2, lines 9-10; col. 5, lines 21-65); and a viscosity index improver in an amount from about 1 to about 10% by weight (see col. 2, lines 15-17; col. 7, lines 3-26). Accordingly, Inoue teaching all the material limitations of the claims, anticipates the claims.

Claims 1-10 lack an inventive step under PCT Article 33(3) as being obvious over Vienna (US 3,396,114).

Vienna teaches a lubricant comprising 0.5 - 2 volume percent of a polyalkyl methacrylate viscosity index improver, 0.5 - 2 volume percent of a hindered phenol and petroleum lubricating oil having a viscosity of 47 SSU at 210 F to 12,000 SSU at 0 F (see abstract; col. 1, lines 11-31; col. 3, lines 20-69).

Vienna teaches the limitations of the claims other than that the oil composition functions as a gas engine oil. However, no unobviousness is seen in this difference since Vienna teaches the same components used in the same proportions as Applicant. Therefore, it would be reasonable to expect that the lubricant composition of Vienna would function as a gas engine oil. Vienna also fails to teach that the additive composition enhances the life of the oil. However, since Vienna incorporates the same additives in the oil as those of the present invention, it would be reasonable to expect that the additive composition enhances the life of the oil.

Claims 1-10 meet the criteria set out in PCT Article 33(4), because the gas oil has industrial applicability in gas powered
(Continued on Supplemental Sheet.)

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

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Supplemental Box

(To be used when the space in any of the preceding boxes is not sufficient)

Continuation of: Boxes I - VIII

Sheet 10

V. 2. REASONED STATEMENTS - CITATIONS AND EXPLANATIONS (Continued):
engines.

----- NEW CITATIONS -----
NONE